Colonel Richard C. Johns
District Engineer
Norfolk District, Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Attn: Ms. Magi Shapiro
Regulatory Branch

Re: CENAO-CO-R 91-1364-80, Virginia Power Company, Chesterfield and Henrico Counties, Virginia

Dear Colonel Johns:

This responds to your March 11, 1992 request for formal consultation under Section 7(a)(2) of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), regarding impacts of the Department of the Army (DOA) permit application CENAO-CO-R 91-1364-80 by the Virginia Power Company (Virginia Power) on the bald eagle (Haliaeetus leucocephalus), a Federally listed endangered species. The project is a 26.8 mile, 230 kilovolt (kV) aerial transmission line to run from a substation in Chesterfield County, Virginia to an existing transmission line in Henrico County, Virginia. This letter constitutes the U.S. Fish and Wildlife Service's (Service) Biological Opinion on this permit application, as required by Section 7(b) of the Endangered Species Act. This letter also provides the comments of the Service, the National Park Service, and the Department of the Interior pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), which are included following the Biological Opinion.

SCOPE OF THE BIOLOGICAL OPINION

This Biological Opinion covers the DOA permit application CENAO-CO-R 91-1364-80 by Virginia Power. Virginia Power has applied for a Federal permit to construct a 230 kV aerial transmission line that will cross the James River, Curles Creek, Curles Neck Swamp, and "The Slash," in Chesterfield and Henrico Counties, Virginia, adjacent to the Presquile National Wildlife Refuge. This line will upgrade electric service to the Bermuda Hundred industrial area and transfer of bulk power to the Hampton Roads area. The line will be 26.8 miles long and run from a substation in Chesterfield County to an existing transmission line in Henrico County. Approximately 9.3 miles of the total distance will constitute a new right-of-way. Approximately 15.7 acres of tidal wetlands and 11.7 acres of non-tidal wetlands will be hand-cleared along the 120-foot wide right-of-way. Approximately 1,188.5 square feet (0.027 acres) of tidal wetlands and 130.7 square feet (0.003 acres) of non-tidal wetlands will be filled to place two steel H-frame and eight wooden H-frame power pole structures. The James River crossing will consist of aerial lines suspended between two steel H-frames with a minimum overhead clearance of 171 feet. Virginia Power requested a permit application modification to use a single shaft steel pole for the river crossing and anchor structure. This modification reduced

tidal wetland fill by 249 square feet. In addition, a distribution line adjacent to the transmission line between Route 5 and the curve in the road near Strawberry Plains on Curles Neck Farm will be placed underground. The remaining segment of the distribution line that parallels the proposed transmission line will be raptor-proofed. The project location is shown in Figure 1.

CONSULTATION HISTORY

Consultation history regarding this project is provided in Appendix A.

BIOLOGY AND STATUS OF THE BALD EAGLE

The bald eagle (Haliaeetus leucocephalus) is a large raptor (bird of prey) that was chosen as the United States' symbol in the late 1700s due to its size and majesty. With the exception of the California condor (Gymnogyps californianus), the bald eagle is the largest raptor in North America, with a wing span of 6.5 feet. The bald eagle is found primarily near seacoasts, rivers, and lakes of North America; thus its colloquial name, the "sea eagle." A scavenger, the bald eagle feeds primarily on fish and carrion. Bald eagles tend to be a social species. Non-nesting birds are often found in large numbers in areas where feeding opportunities are good and in communal night roosts.

Although adult bald eagles are known for their white heads and tails, immature and juvenile birds are mainly brown. Adult plumage develops slowly, with full plumage not in place until the birds reach four to five years of age. Adult birds mate for life, establishing nesting territories that they return to each year. Nesting pairs may remain near their territory year round, particularly towards the southern range of the species. Immature and non-mated eagles range widely, migrating north and south from their nest sites. Northern pairs also migrate south during the winter when rivers and lakes freeze. These birds tend to congregate in both summer and winter concentration areas, locations where feeding opportunities are good and human disturbance is low.

The widespread use of DDT was primarily responsible for the precipitous decline of the bald eagle in North America in the 1960s and the listing of the Southern bald eagle as a Federally endangered species in 1967. (The remaining bald eagle populations in the coterminous United States were listed as endangered or threatened in 1978 and the "Southern" designation was dropped.) This pesticide entered the food chain and built up to toxic levels in eagles, resulting in reproductive failure. With the cancellation of the pesticide registration for DDT by the U.S. Environmental Protection Agency, eagle populations have started to recover. Habitat loss now poses a greater threat to the bald eagle since its preferred habitat, coasts and shorelines, is also where most of the human population growth is occurring in the United States.

The bald eagle populations of the United States have been divided by the Service into five recovery groups: Pacific, Southwest, Northern, Southeast, and Chesapeake. Birds from the Northern and Chesapeake populations use the James River area during the winter. Twenty-four states are included in the Northern bald eagle population. According to the Northern States Bald Eagle Recovery Plan (U.S. Fish and

Wildlife Service 1983), 96% of the 568 known occupied breeding areas and 90% of all young produced occurred in Minnesota, Maine, Michigan, and Wisconsin in 1981. To reclassify the population as threatened, the recovery plan indicates that 1,200 occupied breeding areas must be distributed over at least 16 states, with an average annual productivity of at least one young per occupied nest. Currently, the goal of 1,200 occupied breeding areas has been reached, but nesting is not distributed over a multi-state area as required to meet recovery goals (Paul Nickerson, pers. comm.).

The recovery and reclassification to threatened status of the Chesapeake Bay Region bald eagle population depends on the availability of enough undisturbed roosting and nesting habitat to accommodate 175-250 nesting pairs with a success rate of 1.1 young per active nest, concurrent with showing sustained progress in habitat protection measures (U.S. Fish and Wildlife Service 1990). A goal of management and recovery is to ensure preservation of selected, well-distributed habitats (U.S. Fish and Wildlife Service 1989). The recovery plan indicates the need to "Minimize disturbance and loss of bald eagles. Activities of man, either directly against the birds themselves, or indirectly through disturbance of areas frequented by bald eagles, continues to be a serious limiting factor to Chesapeake Bay Region eagles" (U.S. Fish and Wildlife Service 1982). The Chesapeake region currently supports 230 breeding pairs with a productivity level of 1.43, which meets the recovery plan's criteria for reclassification to threatened (U.S. Fish and Wildlife Service 1990). However, available habitat is continuing to decline, affecting the ultimate carrying capacity of the Chesapeake Bay Region (U.S. Fish and Wildlife Service 1990).

Advanced notice of a forthcoming proposal to reclassify the bald eagle from endangered to threatened in certain portions of its range was published in the Federal Register on February 7, 1990 (50 CFR Part 17). The advanced notice includes the two populations that use the James River area during the winter -the Northern and Chesapeake Bay recovery populations. The official proposal itself has not been published. It must be recognized however, that if the bald eagle's status is reclassified to threatened in parts of its range, the species will still be protected under the Endangered Species Act. The term "threatened" indicates there is still a possibility that the species could face extinction if further protective measures are not undertaken. The protection of roosting and foraging habitat is critical to the maintenance and recovery of this species.

During the day, eagles spend approximately 94% of their time perching (Gerrard et al. 1980, Watson et al. 1991). Of that time, 54% is spent loafing, 23% foraging, and 16% nesting (Watson et al. 1991). Eagles prefer high perches in trees that rise above the surrounding vegetation to provide a wide view that faces into the wind (Gerrard et al. 1980). Birds often locate prey from a shoreline perch and hunting forays from perches appear to be more successful than those initiated from flight (Jaffee 1980). During winter in the Chesapeake Bay, bald eagles may feed on dead or moribund gizzard shad (Mersmann 1989). However, eagles will feed on waterfowl and mammal carcasses in winter when fish numbers are low (U.S. Fish and Wildlife Service 1990).

Because Presquile National Wildlife Refuge, Curles Neck, and Jones Neck are heavily used by waterfowl; the Slash, Curles Neck Swamp, and portions of the refuge have large wooded tracts; and this portion of the James has a relatively undisturbed shoreline, this area is used by bald eagles for both nesting and wintering. Birds from northeastern Canada and the United States migrate into and through the Chesapeake Bay Region in fall and winter (Stewart and Robbins 1958). The birds typically arrive in November and are gone by the end of March (Mitchell Byrd, pers. comm.). The section of the James River including and adjacent to the Curles Neck area contains the largest winter concentration of bald eagles on the river and is one of only three winter concentration areas in Virginia. Thirty to 40 eagles utilize the area from Bailey Creek to Jones Neck during the winter (Mitchell Byrd, pers. comm.). The Slash, a wooded wetland, contains an eagle nest that has been active since at least 1983. The nest is 0.8 miles from the transmission line corridor. The eagle pair remains in the area year round.

EFFECTS OF THE FEDERAL ACTION ON THE BALD EAGLE AND ITS HABITAT

As defined in 50 CFR 402.02 "action" means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas. The "action area" is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. The direct and indirect effects of the actions and activities resulting from the Federal actions must be considered in conjunction with the effects of other past and present Federal, State, or private activities, as well as the cumulative effects of reasonably certain future State or private activities within the action area.

The action area for this Biological Opinion has been determined by the Service to be the Presquile National Wildlife Refuge, Curles Neck Farm, the Slash, and Jones Neck, including the James River and its associated shoreline from the Presquile National Wildlife Refuge to Jones Neck because bald eagles feed, nest, and fly throughout this area.

Environmental Baseline

The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early Section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.

The section of the James River to be crossed is freshwater tidal and located approximately 70 river miles from its entrance into the Chesapeake Bay. Substantial areas of emergent and forested wetlands occur within the floodplain of the James and its associated tributaries in this area. Presquile National Wildlife Refuge is 1,329 acres and was established in 1954, primarily for waterfowl. Pre-settlement, the Curles Neck area had a variety of habitat types including bottomland forests, mixed pine/hardwood forests, hardwood forests, emergent marsh, wooded wetlands, and streams. "The Slash" is a large perched wetland, not common in the Henrico County area, comprised of hardwood and bottomland/riparian forests with

diverse plant and animal communities. Jones Neck is a 550-acre river oxbow that has been mined for sand. It currently consists of a large open water area surrounded by a fringe of forested wetlands.

The proposed transmission line corridor crosses a tidal portion of the James River and wetland areas that occur within the river's floodplain and Curles Creek. Curles Creek has been dammed at its mouth. The creek and its associated wetlands, Curles Neck Swamp, are currently managed for waterfowl by the landowner. North of Curles Creek and south of the Slash is a large farm known as Curles Neck Farm which grows agricultural crops, primarily corn and soybeans. A sand-mining operation is also active on the farm. In addition, the farm is hunted for waterfowl, white-tailed deer (Odocoileus virginianus), and upland game birds and animals. A portion of the Slash is owned by Curles Neck Farm and contains an active skeet range. A variety of habitat types occur along the proposed transmission line route, including pine, hardwood, mixed pine/hardwood, and bottomland forests; grasslands; emergent marsh; wooded wetlands; and streams. Both Curles Neck Swamp and the Slash have been identified by the Service as "Priority Wetlands" under the Emergency Wetland Resources Act of 1986. This designation indicates that these wetlands merit protection due to their national significance as important habitat for fish and wildlife including endangered species, and their values for water quality and recreation.

Effects of the Federal Action

In evaluating the effects of the Federal action under consideration in this consultation, 50 CFR 402.2 and 402.14(g)(3) require the Service to evaluate both the direct and indirect effect of the action on the species, together with the effects of other activities that are interrelated or interdependent with the action that will be added to the environmental baseline.

Direct impacts to wintering bald eagles resulting from clearing of the right-of-way and construction of the transmission line will occur through human activity, loud noise, and movement of heavy equipment in the area. Since the bald eagle nest is 0.8 miles from the right-of-way, direct impacts to the nesting pair are unlikely. Indirect impacts to both wintering and nesting eagles may occur through possible collisions with the transmission line.

The direct effects of the action on bald eagles will be the disturbance created during clearing of the right-of-way and construction of the transmission line. Clearing of the right-of-way will require a considerable amount of human activity in the area and loud noise created by chainsaws and other equipment used to clear vegetation. Construction of the transmission line will also necessitate human activity in the area, considerable noise, and use of heavy equipment. These two activities will disturb the birds as they loaf and forage along the shore and fly over the area. Due to the temporary nature of the construction, estimated to be completed by April, 1993, it is not anticipated that the eagles will permanently abandon this area.

Indirect effects are defined as those that are caused by the proposed action and are later in

time, but still are reasonably certain to occur (50 CFR 402.02). Indirect effects on eagles will occur through possible collisions with the transmission line. Electrocution of birds, including eagles, typically does not occur on high voltage transmission lines because of the large distance between conductors (Lee 1979). However, collisions with powerlines (e.g., Avery et al. 1978, James and Haak 1979) are known causes of avian mortality. Low voltage transmission lines and distribution lines appear to be the major source of collisions, but they are also more abundant than high voltage transmission lines (Thompson 1979). For common bird species, such mortality is incidental, but may reach significant levels in localized areas and pose a major source of mortality for endangered species.

Raptors do not usually strike wires because of their good vision, but it can happen when they are distracted or flying in strong winds (Thompson 1979). If eagles often fly during poor visibility such as fog or dusk, potential for a line strike increases (Kroodsma 1979). Because eagles may forage before dawn and during foggy mornings, collisions are possible. In the Chesapeake Bay area, documented bald eagle collisions with transmission lines resulting in death occurred in 1987 in Bath County, Virginia and Charles County, Maryland. Two decomposed eagles were found in proximity to a transmission line at Flowerdew Hundred Plantation in Prince George County, Virginia, in 1984 and 1986 and were thought to be line strikes. In March, 1992 a bald eagle was observed flying out of tree and colliding with a distribution line during mid-day in King George County, Virginia. The bird became entangled in the line and was electrocuted. It should be noted that documenting bird strikes is very difficult because routine searches are not conducted, dead birds are easily removed by scavengers, and injured birds may move some distance from the line.

Steenhof (1978) recommends that powerlines not be constructed in eagle wintering areas. For appropriate management of wintering bald eagles, high voltage powerlines should not be constructed within 1 mile of communal roosts because eagles use these areas during strong winds, and therefore, the potential for accidents is high (Steenhof 1978). Steenhof (1978) also recommends that searches for dead and injured eagles below powerlines be conducted after major storm events to monitor the effects of high voltage powerlines.

The major factors known to contribute to avian collisions include: (1) location of line between 2 bodies of water, (2) low altitude flight patterns, and (3) 230 kV double circuit lines with overhead static wire(s) (Meyer 1978), the first and second of which occur in this project. Other situations with high-risk potential for avian collisions are wetlands, waterfowl concentration areas, flyways, and roosting, feeding, and breeding areas (Thompson 1979). However, where powerlines cross forested land, tower height can be reduced to tree height, reducing above-canopy exposure and thus lowering the risk of collision (Thompson 1979). Thompson (1979) found that bird strikes often occur during courtship, taking off, landing, searching for food while flying, alarm flights, and pursuit by predators. Thompson (1979) also found that young, inexperienced birds and migrants are most vulnerable. Meyer (1978) found that birds collided with lines at all times of day and night and under various weather conditions. James and Haak (1979) found that collision rates were higher at night, but no relationship between weather and strikes was found. Strikes usually occur during bad weather, but they have been documented during periods of calm, clear weather (Thompson 1979).

The overhead ground, or static, wire is usually the problem in higher voltage lines because birds fly over the visible conductors and collide with the static wire which is much smaller in diameter and less visible (Scott et al. 1972, Willard et al. 1977). James and Haak (1979) determined that 83% of all observed avian collisions were from static wires. From her literature review, Beaulaurier (1981) found that about 80% of observed collisions were with overhead static wires.

"Available literature indicated that increasing visibility of powerlines by placing markers on wires was the most cost-effective and logistically feasible method for reducing bird collisions" (Morkill and Anderson 1990). Beaulaurier (1981) summarized studies that used color-marking of static wires or conductors and found that the average reduction in collisions was 45% for marked lines. Morkill and Anderson (1990) found that the presence of yellow marker balls significantly affected sandhill crane (Grus canadensis) flight behavior. Cranes increased altitude or changed flight direction over marked lines, while cranes flying over unmarked lines usually flared. This suggests that cranes flying over marked lines saw the balls and were more likely to adjust their altitude or direction to avoid the balls. Spiral vibration dampers were developed for placement on static wires and conductors to control vibration and reduce line wear, but can be used to mark lines. Gauthreaux (1991) found that during fall and spring, lines marked with spiral vibration dampers had 31% mortality, while unmarked lines had 69% mortality for geese, ducks, and cranes.

As defined in 50 CFR 402.02, interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. The Service is not aware of any activities interrelated to and interdependent with this action.

Virginia Power has incorporated the following measures into their project design and permit application. The two static wires will be marked with yellow spiral vibration dampers at 100 foot intervals on alternating wires for an effective spacing of 50 feet from the south side of the James River to Long Bridge Road. This will increase the visibility of the static wires to eagles as they fly over the transmission line and minimize the number of collisions. In addition, the transmission line will be lowered to average tree height, but not less than 56 feet. Lowering of the line will allow birds flying over wooded areas to avoid the line altogether. The distribution line from Route 5 to the curve in the road near Strawberry Plains on Curles Neck Farm will be placed underground. The remaining distribution line which parallels the proposed transmission line will be raptor-proofed in accordance with Service guidelines.

Even though the above measures will reduce the number of bald eagle collisions with the transmission line, line strikes are still possible. Several researchers have found that marking of static lines can reduce collisions by approximately 45%, but the possibility of collisions cannot be eliminated unless the line is placed underground. The Service believes that potential bald eagle collisions with this transmission line will be reduced, but may still occur.

Cumulative Effects

Cumulative effects are those effects of future non-Federal (State, local government, private,

or any other non-Federal entity) activities on endangered or threatened species or critical habitat that are reasonably certain to occur in the action area. Future Federal actions are subject to the consultation requirements established in Section 7 and, therefore, are not considered to be cumulative effects.

Possible future actions that may impact wintering and nesting bald eagles are the development of Curles Neck Farm or the Slash. At the present time, the owner of Curles Neck Farm does not plan to sell the property (Richard Watkins, pers. comm.). However, if it is sold, residential development will likely occur (Richard Watkins, pers. comm.). Development at this location will likely cause eagle abundance to decrease and abandonment may occur. Buehler et al. (1991) found that eagle use of shoreline was inversely related to building density and directly related to the development set-back distance. They also found that when shoreline is developed, it is lost as eagle habitat.

OPINION OF THE SERVICE

It is the opinion of the Service that this project is not likely to jeopardize the continued existence of the Chesapeake or Northern bald eagle recovery populations.

INCIDENTAL TAKE

Sections 4(d) and 9 of the Endangered Species Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as such actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of an incidental take statement.

Pursuant to 50 CFR 402.14 (g)(7), the Service is to formulate a statement concerning the incidental take of a listed species. This statement must include the level of take that is anticipated to occur due to the Federal action. The Service is to develop, and the Federal agency and/or applicant is to implement, reasonable and prudent measures that will minimize the impacts of the action on the species. In addition, the Service must set the terms and conditions that must be complied with. If the level of incidental take is exceeded, formal consultation under Section 7 must be reinitiated.

The measures described below are nondiscretionary, and must be implemented by the Corps so that they become binding conditions of any permit issued to the applicant in order for the exemption in 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity that is covered by this incidental take statement. If the Corps fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are

added to the permit or grant document, the protective coverage of 7(o)(2) may lapse.

Amount and Extent of Take

The Service anticipates that incidental take of bald eagles will occur in the form of harassment and harm. Harassment of bald eagles is expected to occur during clearing of vegetation and construction of the transmission line through human activity, loud noise, and movement of heavy equipment in the area. When eagles are disturbed through human activity they tend to leave the area and not return until the disturbance no longer exists. It is anticipated that harassment will occur during clearing and construction. Once construction is complete, human activity associated with the transmission line should be minimal and eagles will again use the area.

Harm to eagles is expected to occur through injury or death resulting from collisions with transmission lines. As eagles forage, loaf, and fly in the vicinity of the transmission line, collisions may occur when birds are engaged in other activities such as foraging, pursuing other birds, or fleeing from disturbance. Based upon the documentation of collisions with transmission lines in Virginia, the anticipated take is likely to be one bird over each four-year period.

Reasonable and Prudent Measures

The incidental take statement provides measures that are necessary or appropriate to minimize take of the listed species. Such measures should decrease the level of take to the maximum extent possible or describe methods by which to replace the capability of the population or habitat to support preactivity levels. These measures are to be reasonable and prudent, meaning that the nature of the corrective action required is commensurate with the impact on the species/habitat (e.g., a minor effect on the species/habitat resulting from the action requires minor effort to minimize, while an anticipated significant, but not jeopardy, level of take may require substantially greater effort to minimize). Such measures are to be within the authority or capability of the agency or applicant to perform, and should not alter the basic purpose, location, scope or duration of the Federally permitted action. The Service believes that the measures incorporated by Virginia Power into the project design to mark the static wire, lower the height of the transmission line, and raptor-proof the distribution line are necessary and appropriate to minimize take.

Time-of-year restrictions on clearing and construction within the main flight path used by bald eagles will minimize the amount of disturbance from human activity. Restricting clearing for and construction of the transmission line right-of-way corridor between Curles Neck Swamp and the northern edge of the Point Bremo area (Figure 2) from November 15 to February 15 will reduce the amount of disturbance to wintering eagles.

Terms and Conditions

In order to be exempt from the prohibitions of Section 9 of the Act, Virginia Power is responsible for compliance with the following terms and conditions, which implement the

reasonable and prudent measures described above. These terms and conditions must be incorporated as binding conditions of any DOA permit issued by the Corps:

1. The two static wires will be marked with yellow spiral vibration dampers. The spiral vibration dampers will be placed every 100 feet on each static wire in an alternating pattern, resulting in a spiral vibration damper every 50 feet. Static wire marking will be from south of the James River to Long Bridge Road. The spiral vibration dampers must be in place at the time of the stringing of the static line.

2. The transmission line will be lowered to average tree height, but not less than 56 feet. The first three to four structures immediately north of Route 5 are excluded because of design constraints.

3. The distribution line from Route 5 to the curve in the road near Strawberry Plains on Curles Neck Farm will be placed underground. This must be done by the completion of the transmission line. The remaining distribution line which parallels the proposed transmission line will be raptor-proofed using perch guards or other methods approved by the Service. Raptor-proofing of this distribution line must be done by the completion of the transmission line.

4. No clearing or construction between Curles Neck Swamp and the northern edge of the Point Bremo area will occur from November 15 to February 15 of each year. The restricted area is shown in Figure 2.

The incidental take statement provided in this Opinion satisfies the requirements of the Endangered Species Act, as amended. This statement does not constitute an authorization for take of listed migratory birds under the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, or any other Federal statute.

Reporting and Monitoring Requirements

The terms and conditions of the incidental take statement require Virginia Power to notify the Service upon the initiation and completion of the construction of the transmission line and underground placement of one distribution line and raptor-proofing of the other distribution line. The contact for these reporting requirements is as follows:

Virginia Field Office
U.S. Fish and Wildlife Service
Mid-County Center, U.S. Route 17
P.O. Box 480
White Marsh, VA 23183
(804) 693-6694

In order to monitor the level of incidental take associated with transmission line collisions, Virginia Power must conduct a one-season study on the effects of the line on bald eagles.

Impacts to other species of birds, especially waterfowl, will also be monitored. The study will run from November 1 through January 31 of the first winter after the transmission line is completed. The study must be conducted by investigators chosen in cooperation with the Service. During the study, two investigators will visit the Point Bremo area. During each visit, the investigators will observe bird behavior and reaction to the transmission line. The details of this study and its funding mechanism must be in place by September 1 of the year the study will begin.

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial notification must be made to the nearest Service Law Enforcement Office. Contact either of the following Law Enforcement offices:

Division of Law Enforcement
U.S. Fish and Wildlife Service
8301 Willis Church Road
Richmond, VA 23231
(804) 771-2481

Division of Law Enforcement
U.S. Fish and Wildlife Service
P.O. Box 187
Yorktown, VA 23690
(804) 890-0003

Care should be taken in handling sick or injured specimens to ensure effective treatment and care in handling dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

REINITIATION OF FORMAL CONSULTATION

This concludes formal consultation on this Federal action. As required by 50 CFR 402.16, reinitiation of formal consultation by the Corps is required if: (1) the amount or extent of incidental take is reached; (2) new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this Opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations that are causing such take must be stopped in the interim period between the initiation and completion of the new consultation if any additional taking is likely to occur.

FISH AND WILDLIFE COORDINATION ACT REPORT

Fish and Wildlife Resources in the Project Area

The following comments constitute the report of the Service and the Department of the Interior on this project and are submitted under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.). The description of the resources of the project site and the impacts associated with the construction and use of the transmission line included under the Service's Biological Opinion are pertinent to our comments under the Fish and Wildlife Coordination Act. Besides bald eagles, other migratory birds such as woodland warblers (Dendroica species), vireos (Vireo species), and flycatchers (Empidonax species), which are experiencing population declines, utilize large tracts of contiguous forest such as those found in Curles Neck Swamp and the Slash.

In addition, other species of birds such as ducks (Family Anatidae), geese (Family Anatidae), herons (Family Ardeidae), and egrets (Family Ardeidae) utilize the area between Jones Neck and Presquile National Wildlife Refuge. The area between the refuge and Jones Neck is one of the largest waterfowl concentration areas on the James River during the fall and winter. Waterfowl population numbers are at their lowest historical levels in North America. The Secretary of the Interior and the Canadian Minister of the Environment signed the North American Waterfowl Management Plan in 1986 in order to reduce the losses of this economically important group of birds. The wetlands of the James River, including those of Curles Neck Swamp, are included in the Middle-Upper Atlantic Coast region of the North American Waterfowl Management Plan as wetland areas that provide waterfowl habitat of major international importance.

One of the Service's primary concerns is the protection of wetland habitat. Wetlands are valuable resource areas for a number of reasons. They can improve water quality by filtering out sediments and by absorbing excess nutrients and pollutants. They provide rich habitat for a variety of fish and wildlife species. Forested wetlands in particular play a major role in stream ecosystem quality by helping to control water temperature, contributing food matter, controlling upland runoff into streams, and stabilizing stream banks. Forested wetlands also provide habitat for mammals and birds and are used as breeding areas by amphibians. In the late 1970s, palustrine vegetated wetlands comprised 72% of Virginia's one million acres of wetlands. Palustrine forested wetlands were the most abundant of these, making up approximately 60% of the wetlands in the state. Since the 1950s, Virginia has lost approximately 7% (57,000 acres) of its palustrine vegetated wetlands, most of which were forested wetlands (Tiner and Finn 1986). Both the Curles Neck Creek wetlands and the Slash are palustrine forested wetlands that provide important habitat for fish and wildlife, including endangered species. In addition, the Slash is a large perched wetland, uncommon in the Henrico County area.

The wetlands of Curles Neck Creek and the Slash have been listed as priority wetlands under the Emergency Wetlands Resources Act of 1986 (Public Law 99-645). This Act was passed by Congress to promote the conservation of our nation's wetlands. The purpose of the Act is "to promote the conservation of migratory waterfowl and to offset the serious loss of wetlands by the acquisition of wetlands and other essential habitat...[and]...to promote, in concert with other Federal and State statutes and programs, the conservation of the wetlands of the Nation in order to maintain the public benefits they provide by (1) intensifying cooperative efforts among private interests and local, State, and Federal governments for the management and conservation of wetlands and (2) intensifying efforts to protect the

wetlands of the Nation through acquisition in fee, easements, or other interests and methods by local, State, and Federal governments and the private sector." Section 301 of the Act directed the Department of the Interior to develop a National Wetlands Priority Conservation Plan (National Plan) that identifies the location and types of wetlands that should receive priority attention for acquisition by Federal and state agencies or other methods of protection. The criteria for identifying wetland sites considered the functions and values of wetlands, historic wetlands losses, and threats of future wetlands losses. The Regional Wetlands Concept Plan (RWCP), dated October 1990, was developed by the Northeast Region of the Service to complement the National Plan. The RWCP identifies nearly 850 wetland sites and complexes that warrant consideration for acquisition within the thirteen states that comprise the Northeast Region. Over two hundred sites were identified for Virginia. Curles Neck Creek and the Slash have been identified in the RWCP. Curles Neck Creek and the Slash were placed on the RWCP list because of significant wildlife, fisheries, water quality and flood protection, and outdoor recreation functions and values.

In accordance with the Service's Mitigation Policy (Federal Register Vol. 46, No. 15, January 23, 1981), we have placed the wetlands in the project area in Resource Category 2, defined as habitat of high value that is relatively scarce on a national basis or in the ecoregion section. This determination is based on the high value of these wetlands to migratory birds, the bald eagle, anadramous fish, as well as other species of fish and wildlife, and based on the fact that these wetland types are undergoing losses at both the national and ecoregion level.

Project Impacts

Many species of nongame migratory birds require large (85 acres or greater), undisturbed, and generally mature forested areas to reproduce and sustain viable populations. Clearing linear tracts through contiguous woodlands can subdivide forests, creating "islands" of habitat which are of unsuitable size for many of these species.

Ducks, geese, raptors, herons, and egrets travel between the refuge and the Curles Neck area daily at low altitudes during fall and winter. Therefore, they have the potential to collide with the transmission line. A more detailed discussion of impacts of transmission lines on avian species is provided in the Biological Opinion.

Palustrine forested wetlands will be impacted by this project through both filling and clearing. Approximately 1,188.5 square feet (0.027 acres) of tidal wetlands and 130.7 square feet (0.003 acres) of non-tidal wetlands will be filled for pole placement. The total amount of wetland fill is 1,319.2 square feet. Approximately 15.7 acres of tidal wetlands and 11.7 acres of non-tidal wetlands will be hand-cleared along the 120-foot wide right-of-way. The total amount of wetland clearing is 27.4 acres. The cleared palustrine forested wetlands will be converted to palustrine shrub-scrub and emergent wetlands. Therefore, while some wetland functions will be retained, values specifically associated with forested wetlands will be lost.

Mitigation of Project Impacts

In a letter to the Virginia State Corporation Commission (SCC) dated March 19, 1990 (copy enclosed), the Service indicated that a less damaging practicable alternative is available that would avoid the important waterfowl and bald eagle concentration area at Curles Neck and minimize the impact on wetlands. That letter is incorporated by reference as part of this Fish and Wildlife Coordination Act report. It is the Service's position that the alternative presented in our previous letter to the SCC is preferable from a fish and wildlife standpoint and, therefore, we do not support the issuance of a DOA permit for the project as currently proposed by Virginia Power. However, we are aware that the SCC has approved the project at its current location. If the Corps determines that the issuance of a DOA permit is in the public interest, the Service recommends that the following measures be incorporated to further mitigate impacts to fish and wildlife resources.

To avoid impacts to migratory birds during the nesting season the Service recommends that initial and maintenance vegetation clearing not occur between April 1 and July 15. This will avoid the destruction of active nests, eggs, and young. The Service's recommendation to the Corps under the Fish and Wildlife Coordination Act regarding mitigation of impacts to bald eagles, waterfowl, and other waterbirds are the same as our recommendations given under the Endangered Species Act. We recommend that the conditions provided on page 10 of the Biological Opinion be included as conditions of any DOA permit issued to Virginia Power.

To minimize impacts to wetlands and waterways during clearing of the site and construction of the transmission line, we recommend that the DOA permit include the following conditions:

1. Use silt fencing and straw bales landward of the fringing riparian vegetation along the James River, Curles Creek, and any other waterbodies in any areas that land clearing and grading will occur.

2. All work in wetlands should be done on mats, preferably during the driest period of the year (May-October). Flotation equipment is recommended for permanently flooded wetlands.

3. Initial and maintenance clearing of wetlands should be done by hand where practicable.

4. No excavated material should be stockpiled within wetlands or waterways.

5. Seed and mulch denuded areas immediately after project completion. Replant any disturbed area with indigenous species. Marsh planting for wetland restoration is most successful in the mid-Atlantic region from late winter to mid-summer.

6. Pile brush and slash from any vegetation removed during construction along the edge of or adjacent to right-of-ways. Where natural depressions and gullies exist, place brush piles on the down slopes to provide wildlife habitat as well as to help prevent erosion.

7. Develop soil and erosion measures in accordance with State erosion and sediment

control laws or U.S. Soil Conservation Service standards, as appropriate, in order or minimize the adverse impacts of sedimentation to streams.

8. No use of broad scale or aerial herbicide applications in wetlands.

The Service's mitigation goal for Resource Category 2 habitats is no net loss of in-kind habitat value. In order to fully compensate for loss of resource values and provide for no net loss of in-kind habitat value, the Service recommends compensation for filling of palustrine forested wetlands at a 2 to 1 ratio, that is, 2 acres of wetlands created for each acre impacted. As indicated in the Service's Mitigation Policy, compensatory actions, for example creation of man-made wetlands or restoration of degraded wetlands, should be undertaken on-site. If on-site compensatory mitigation is not practicable, off-site compensatory mitigation should be undertaken in the same geographical area. In-kind compensation will always be considered over out-of-kind compensation. Due to the small amount of wetlands that will be permanently lost as a result of this project, the Service recommends that the creation of 2,377 square feet of forested tidal wetlands and 262 square feet of forested non-tidal wetlands be incorporated with the compensation for the clearing of the 15.7 acres of forested tidal wetlands and 11.7 acres of forested non-tidal wetlands, discussed below.

The "Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines" dated February 6, 1990, states that "The objective of mitigation for unavoidable impacts is to offset environmental losses. Additionally for wetlands, such mitigation should provide, at a minimum, one for one functional replacement (i.e., no net loss of values)...." Thus, the Service recommends compensation for impacts from converting forested wetlands to emergent and shrub-scrub wetlands through clearing at a one to one ratio. Such compensation will replace the functional values of the forested wetlands associated with nesting and foraging habitat for migratory birds such as raptors and songbirds.

The Service recommends that the impacts to the forested wetlands be compensated through the creation and/or restoration of 27.46 acres of forested habitat. The following options for compensation of the functional values associated with wooded habitat are appropriate and are listed in order of priority for implementation:

1. Restore filled wetlands around the borrow pit associated with the sand-mining operation at Curles Neck Farm.

2. Restore prior-converted cropland or farmed wetlands within the vicinity of the project or elsewhere in the tidal freshwater portion of the James River.

3. Purchase woodlands in the Slash to protect the eagle nest or acquire a permanent conservation easement around the nest.

4. Purchase of or permanent conservation easement on agricultural land adjacent to Malvern Hill Unit

of Richmond National Battlefield Park and restore to woodlands.

5. Purchase of or permanent conservation easement on agricultural land adjacent to James River National Wildlife Refuge and restore to woodlands.

6. Permanent conservation easement around eagle nest sites (both active and non-active) on Virginia Power property at Surry Nuclear Station.

7. Permanent conservation easement on other Virginia Power property.

It should be noted that more than one of the above may be necessary to compensate for the total 27.46 acres. Virginia Power should investigate each option sequentially and provide justification for why each is or is not feasible. We will be pleased to work with the Corps and Virginia Power in the development of a detailed mitigation and monitoring plan. For your information, and that of Virginia Power, we have included articles on planning considerations for wetland creation. We recommend that the wetland mitigation and monitoring plan be developed prior to issuance of the Corps permit and that wetland compensation be constructed simultaneously with the permitted wetland alteration.

It is the opinion of the National Park Service that the construction of this transmission line will not be observable from the Malvern Hill Unit of the Richmond National Battlefield Park if the lines are at average tree height.

The Service appreciates the opportunity to work with the Corps in fulfilling our mutual responsibilities under the Endangered Species Act and the Fish and Wildlife Coordination Act. Please contact Cindy Schulz of our Virginia Field Office at (804) 693-6694 if you require additional information or wish to discuss our comments further.

Sincerely,

John P. Wolflin
Supervisor
Annapolis Field Office

cc: Virginia Power
Mr. Richard Watkins

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Appendix A - Consultation History

11-09-88 The Service received a letter from Virginia Power indicating that they were in the process of selecting a route for this transmission line.

12-20-89 The Service received a copy of the Virginia State Corporation Commission's (SCC) public notice on Virginia Power's application for a SCC certificate.

01-30-90 The Service received a copy of the Environmental Assessment prepared by Virginia Power.

03-19-90 The Service sent a letter to the SCC that detailed the Service's concerns regarding the proposed location of the transmission line.

03-20-90 The Service attended the SCC hearing and presented the agency's position expressed in its letter of March 19, 1990.

04-25-91 The Service participated in an on-site visit at Curles Neck Farm with representatives from Virginia Power, the Virginia Department of Game and Inland Fisheries, and the Corps.

12-02-91 The Service received the Corps' public notice on Virginia Power's application for a DOA permit.

12-19-91 The Service participated in an on-site meeting at Curles Neck Farm with the Corps and the U.S. Environmental Protection Agency.

01-08-92 The Service received a letter from Virginia Power requesting that the Service inform them of any concerns or questions regarding the project.

01-10-92 The Virginia Field Office received a copy of the January 3, 1992 letter to Service Director John Turner from Virginia Power requesting that the Director expedite the Section 7 consultation process.

01-16-92 The Service received a letter from the Corps requesting a list of threatened and endangered species that could be affected by the proposed project.

01-17-92 The Service responded to the Corps' January 10, 1992 letter requesting information on threatened and endangered species found within the project area.

01-22-92 The Virginia Field Office Supervisor spoke with a representative of Virginia Power regarding Section 7 consultation requirements and the preliminary Service comments on this project as requested in Virginia Power's January 8, 1992 letter.

01-24-92 The Service received a fax from Virginia Power summarizing a telephone conversation with the Virginia Field Office Supervisor on January 22, 1992.

01-27-92 The Service met with Virginia Power and the Corps to discuss mitigation options and information needs for this project.

01-28-92 The Service responded to Virginia Power's January 3, 1992 letter.

02-14-92 The Service received a letter from Virginia Power that summarized the meeting of January 27, 1992.

02-25-92 The Service sent a letter to Virginia Power to correct the inconsistencies that were stated in their summary of the meeting on January 27, 1992.

03-13-92 The Service received the Corps request for formal consultation.

03-27-92 The Service received a copy of Virginia Power's request for a permit application modification for the type of pole and anchor structure to be used in crossing the James River.

04-01-92 The Corps requested a draft copy of the Biological Opinion.

05-11-92 The draft Biological Opinion was sent to the Corps and Virginia Power.

05-21-92 The Service received a letter from Virginia Power requesting minor changes to the draft Biological Opinion.

05-28-92 The Corps informed the Service that they have no changes to the draft Biological Opinion.

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